

REMARKS

The following remarks are being submitted as a full and complete response to the Office Action dated September 21, 2005 (U.S. Patent Office Paper No. 09192005). In view of the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

As outlined above, claims 1-4 stand for consideration in this application.

Obviousness Double Patenting Rejection

Claims 1-4 were rejected pursuant to the judicially-created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Pat. No. 6,441,874. Submitted herewith is a Terminal Disclaimer. As such, withdrawal of this rejection is respectfully requested.

Prior Art Rejections

35 U.S.C. §103(a) Rejection

Claims 1-4 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Imoto (US 5742366) in view of Takao (US 5546203). This rejection is respectfully traversed for the reasons set forth below.

According to the Manual of Patent Examining Procedure (M.P.E.P. §2143),

To establish a prima facie case of obviousness, three basis criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both not found in the prior art, not in the applicant's disclosure.

Claim 1

The Office Action contends that Imoto discloses a liquid crystal display device comprising: a liquid crystal display panel; a luminaire disposed so as to irradiate said liquid crystal display panel with light, having at least one fluorescent lamp; and an upper frame and

a lower frame sandwiching at least said liquid crystal display panel and at least said luminaire therebetween except that Imoto does not disclose the frame having at least one opening/pore and said at least one fluorescent lamp is a cold cathode fluorescent lamp having double-piped structure. The Office Action further contends that Takao discloses a frame fixing a liquid display board to an illuminating device, wherein the frame has a cutout corresponding to a light source for advantages such as releasing heat, and that it would have been obvious to one of ordinary skill in the art to employ a housing and/or the lamp holder having an opening for advantages such as releasing heat. The Office Action further contends that the use of a double-piped cold fluorescent lamp yields several advantages such as suppressing heat generated high luminance, and that it would have been obvious to one of ordinary skill in the art at the time of the invention was made to employ a double-piped cold fluorescent lamp that yields several advantages such as suppressing heat generated high luminance. Applicants respectfully disagree.

Takao shows in Fig. 4 that frame 10 has opening 15. The length of opening 15 is almost the same as the length of display window 14. Since the length of light source 12 should be longer than the length of the display window, the length of the light source must be longer than the length of opening 15. In other words, the opening of the frame does not correspond to an electrode portion of the light source.

In contrast, the present invention provides that said lower frame has at least one opening portion or at least one notch corresponding to at least one electrode portion of said at least one fluorescent lamp.

Furthermore, Takao shows that the light source may use a straight tube type cold cathode fluorescent lamp that is constructed by a luminous element and an enclosing tube. (col.3, lines 55-58) However, Takao does not show using a cold cathode fluorescent lamp having double-piped structure. There is no suggestion to use a cold cathode fluorescent lamp having double-piped structure in Imoto and Takao. Thus, all the limitation recited in claim 1 are not taught or suggested by the combination of Imoto and Takao. Furthermore, there is no suggestion or motivation to combine Takao with Imoto, explicitly or implicitly in Takao or Imoto, or in the knowledge generally available to one of ordinary skill in the art at the time the invention was made to create the invention of claim 1. Accordingly, the invention recited in claim 1 is not obvious, and thus allowable over Imoto and Takao.

Claim 2

Claim 2 is dependent upon the independent claim 1. As such, the arguments set forth above are equally applicable here. The base claim being allowable, dependent claim 2 must also be allowable.

Claim 3

The Office Action further contends that Imoto discloses the heat condition means 11 and the lamp holder constituted by the same member, wherein the material comprises acrylic resin, and thus the thermal conductivity of the acrylic resin (the lamp holder) is at least lower than the thermal conductivity of silicone rubber. Applicants respectfully disagree.

First, neither Imoto nor Takao discloses one of the limitations of claim 3, namely at least lamp holder holding said at least one fluorescent lamp at the electrode portion of said at least one fluorescent lamp. Imoto merely shows that light emitting means is held by tube reflection sheet 22 and holding means 12, which is a housing of the display. Takao says nothing about how to hold the electrode portion of the light source.

Further, Imoto shows the heat conduction means 11 and the holding means 12 may be the same member (see col. 7, lines 39-41). However, holding means 12 in Imoto holds display means 19, light-guide means 14, and light emitting means 13. (col. 5, lines 4-5) Holding means 12 in Imoto does not correspond to the lamp holder as recited in claim 3. Rather, holding means 12 in Imoto is a housing, and thus at best corresponds to the upper/lower frame of claim 1. Since holding means 12 is a different element from the lamp holder recited in claim 3, the use of acrylic resin for the holding means does not teach or suggest that the thermal conductivity of said at least one lamp holder is lower than the thermal conductivity of silicone rubber.

Even more, with respect to “said at least one fluorescent lamp is a cold cathode fluorescent lamp having double-piped structure,” the arguments set forth above are equally applicable here.

Furthermore, there is no suggestion or motivation to combine Takao with Imoto, explicitly or implicitly in Takao or Imoto, or in the knowledge generally available to one of ordinary skill in the art at the time the invention was made to create the invention of claim 3. Accordingly, claim 3 is not obvious in view of all the prior art.

Claim 4

Claim 4 is dependent upon the independent claim 3. As such, the arguments set forth above are equally applicable here. The base claim being allowable, dependent claims 4 must also be allowable.

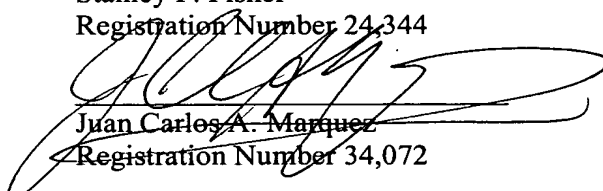
Conclusion

In view of all the above, Applicant respectfully submits that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

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